Title (en)

Internal diffusion process Nb3Sn superconducting wire

Title (de)

Prozess für die interne Diffusion eines Nb3Sn supraleitenden Drahtes

Title (fr)

procède par diffusion interne d'un fil supraconducteur de Nb3Sn

Publication

EP 1780812 A2 20070502 (EN)

Application

EP 06122166 A 20061012

Priority

JP 2005318722 A 20051101

Abstract (en)

An internal diffusion process Nb 3 Sn superconducting wire is produced by drawing a composite wire including a composite material containing a plurality of Nb or Nb based alloy cores embedded in a Cu or Cu based alloy matrix and a Sn or Sn based alloy core disposed in the center portion, a diffusion barrier layer composed of Nb or Ta and disposed on the outer perimeter of the composite material, and stabilizing Cu disposed on the outside of the diffusion barrier layer and heat-treating the resulting composite wire so as to diffuse Sn and react Sn with the Nb or Nb based alloy cores, wherein the area percentage of the stabilizing Cu in a cross section in a direction perpendicular to the axis center of the composite wire is 10% to 35% and the area percentage of the diffusion barrier layer is 10% to 25%.

IPC 8 full level

H01L 39/24 (2006.01)

CPC (source: EP US)

H10N 60/0184 (2023.02 - EP US); Y10T 29/49014 (2015.01 - EP US)

Cited by

EP1993153A1; CN110556214A

Designated contracting state (EPC)

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DOCDB simple family (publication)

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